

## **New Intel® Desktop Boards Integrate Intel® Extreme Graphics**

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## Table of Contents

(Click on page number to jump to sections)

<b>NEW INTEL® DESKTOP BOARDS INTEGRATE INTEL® EXTREME GRAPHICS .....</b>	<b>3</b>
OVERVIEW .....	3
SUPPORT FOR 533-MHZ SYSTEM BUS PROVIDES SPEED, FLEXIBILITY .....	3
BUILT-IN MANAGEMENT CAPABILITIES HELP TO MINIMIZE TCO .....	3
SUMMARY .....	4
MORE INFO .....	4
AUTHOR BIO .....	4

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## New Intel® Desktop Boards Integrate Intel® Extreme Graphics

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### Overview

Users in all market segments can be very demanding when it comes to graphics. Now, system integrators have a choice of four new Intel® desktop boards that meet the most stringent demands for graphics performance, reliability, and value. They are the Intel Desktop Boards D845GRG and D845GBV, based on the Intel 845G chipset, and the Intel Desktop Boards D845GLAD and D845GLLY, based on the Intel 845GL chipset.

To know how a given board might fit best into the products you are designing, consider what the boards have in common. Intel® Extreme Graphics, the next-generation technology of integrated 32-bit graphics, is available on all four boards to provide unprecedented visual effects without the need for costly add-on components. This, along with 32-bit color depth and support for high-quality 3D applications and video playback at full DVD speed, makes Intel Extreme Graphics an ideal solution for corporate systems, as well as those addressing the home and small-business user.

Also available on all four boards is Hi-Speed USB 2.0, which delivers 40 times the bandwidth of existing USB 1.1 interfaces to meet the hefty I/O requirements of high-bandwidth peripherals such as newer scanners, digital cameras, external CD-ROM burners, and external hard drives. For applications ranging from database backup to the transfer of multimedia digital content, this is a breakthrough advantage, with dramatic speed improvements for burning CD-ROMs (6X faster\*\*), backing up vital data (11X faster\*\*), and displaying full-motion video (50 percent faster\*\*). Moreover, Hi-Speed USB 2.0 enables you and your customers to make a seamless transition to higher-speed technologies with full plug-and-play capability and complete backwards compatibility.

\*\* Performance tests and ratings are measured using specific computer systems and/or components and reflect the approximate performance of Intel products as measured by those tests. Any difference in system hardware or software design or configuration may affect actual performance. Buyers should consult other sources of information to evaluate the performance of systems or components they are considering purchasing.

### Support for 533-MHz System Bus Provides Speed, Flexibility

Next, consider some of the capabilities that the new Intel desktop boards are making available for the first time. For applications where performance is paramount, including enterprise-level business solutions and professional graphic-arts systems, the Intel Desktop Boards D845GRG and D845GBV support the powerful Intel® Pentium® 4 processor in the mPGA478-pin package with a 400-MHz or 533-MHz system bus. Support for the 533-MHz system bus speed not only expedites data transfer, but also ensures a smooth upgrade path to future high-end processors for you and your customers alike. For highly customized solutions requiring ultra-high frame rates and visual clarity, these boards include an AGP 2X/4X slot, accommodating high-end graphics cards or AGP digital display cards for such equipment as digital flat-panel monitors or TV-out encoders.

When it comes to audio, the Intel Desktop Boards D845GRG and D845GBV offer next-generation audio capabilities through SoundMAX® with SPX® (version 3.0). Coupled with the remarkable visual effects available through Intel Extreme Graphics, SoundMAX with SPX makes systems based on Desktop Boards D845GRG and D845GBV ideal for immersive gaming applications. For a more price-conscious market segment that still demands excellent audio, the Desktop Boards D845GLAD and D845GLLY offer SigmaTel® AC'97, a high-performance 20-bit audio solution that is perfect for delivering outstanding sound quality on diverse speaker components.

### Built-in Management Capabilities Help to Minimize TCO

Along with powerful and innovative graphics and audio performance, the new Intel desktop boards include a solid array of management capabilities. For business environments that depend on simplified hardware maintenance and support, Intel Desktop Boards D845GRG and D845GBV provide a hardware-management ASIC that enables continuous

monitoring of the power supply, system temperature, voltage, and fan speed, as well as hardware-based fan speed control on some SKUs. Intel® Active Monitor, the software that works in partnership with the ASIC, displays monitoring information to the user and delivers easily customizable alerts when resource usage approaches its limits.

In addition to the high-end monitoring and maintenance tools available in the Desktop Boards D845GRG and D845GBV, all four boards, including the Desktop Boards D845GLAD and D845GLLY, provide built-in software and firmware for keeping Total Cost of Ownership (TCO) to a minimum. Intel® Rapid BIOS Boot, for example, accelerates power-on self test for reduced boot time and faster system access. Instantly Available PC enables the system to switch rapidly from low-power to normal-power operating mode for reducing energy consumption while maintaining easy system access. Intel® Express BIOS Update simplifies BIOS updates to keep upgrade options open for you and your customers.

## Summary

The new Intel Desktop Boards D845GRG, D845GBV, D845GLAD, and D845GLLY give integrators a rich selection of the features needed to meet market demands at a wide assortment of performance requirements and price points. On the high end, Desktop Boards D845GRG and D845GBV can provide integrators with industry-leading graphics capabilities, outstanding overall performance, and the flexibility to easily upgrade or offer multiple SKUs based on one board. To address different price points within the high end, the boards are available in ATX (D845GBV) and microATX (D845GRG) form factors.

Alternatively, the Intel Desktop Boards D845GLAD and D845GLLY are both available in the microATX form factor. This, along with their support for both the Intel Pentium 4 and the Intel® Celeron® processors and their comprehensive, powerful, and reliable graphics and integrated audio capabilities, makes them a smart choice for integrators seeking to address more price-sensitive market segments while meeting demands for sharp, clear graphics and high-quality sound—both essential in the home market and gaming world. These boards offer integrators even further choice among price points through their memory capabilities. Featuring DDR200/266 SDRAM, the Desktop Board D845GLAD supports slightly higher memory demands, while the Desktop Board D845GLLY, with PCC133 SDRAM, supports a more value-conscious market segment.

Like all Intel® products, the Intel Desktop Boards D845GRG, D845GBV, D845GLAD, and D845GLLY are manufactured in an environment involving extensive compatibility testing and requiring broad compliance with international safety and EMI/RFI regulations. They also come with a three-year limited warranty (Channel SKUs only) and a solid foundation of service and support, bolstering investment protection for integrators developing systems for a wide range of market needs. Learn more about these new boards and how they can help you to provide the reliability, graphics performance, and comprehensive system-management capabilities your customers are demanding.

## More Info

For more information on the Intel Desktop Boards D845GRG, D845GBV, D845GLAD, and D845GLLY go to the [New Desktop Boards with Intel Extreme Graphics page](#). For more information on Intel Desktop Boards in general, go to the [Intel Desktop Boards Web site](#).

## Author Bio

Dieter Cohrs is a senior product marketing engineer in the Desktop Platform Solutions Division at Intel Corporation. Before joining Intel in 2001, he worked for Siemens AG in DRAM design, characterization, and validation. He holds an M.B.A. from the Sloan School of Management at MIT and an M.S. in electrical engineering and computer science from the Technical University of Munich.

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